

FIG. 3A

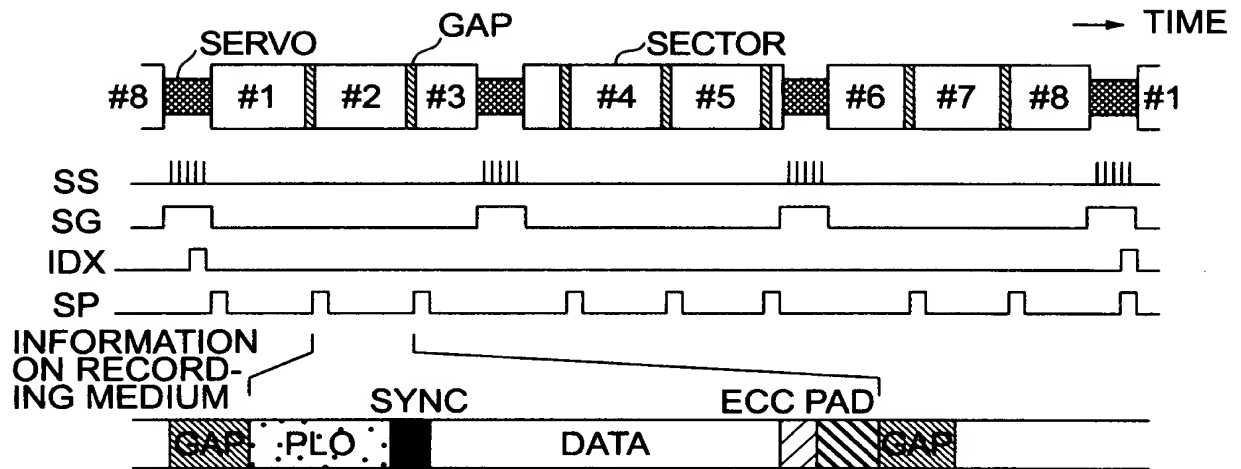


FIG. 3B

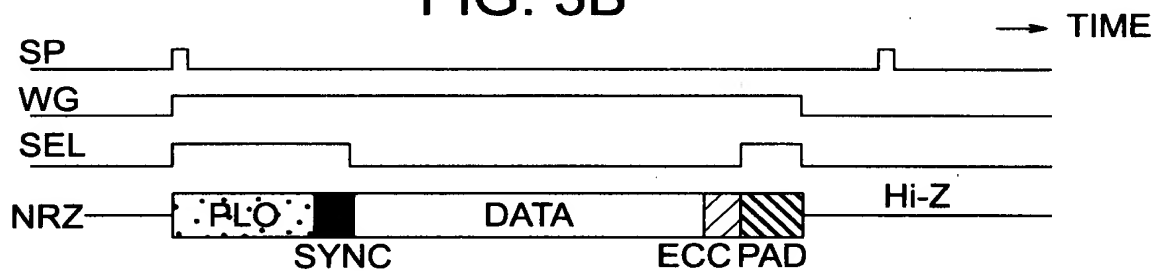


FIG. 3C

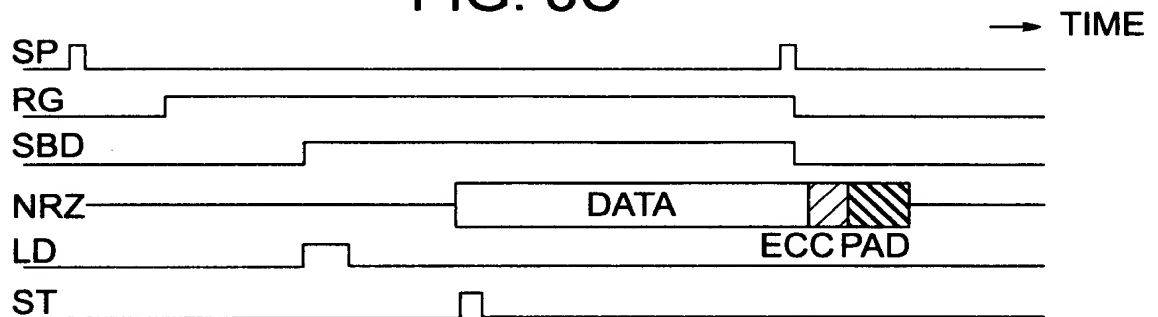


FIG. 4A

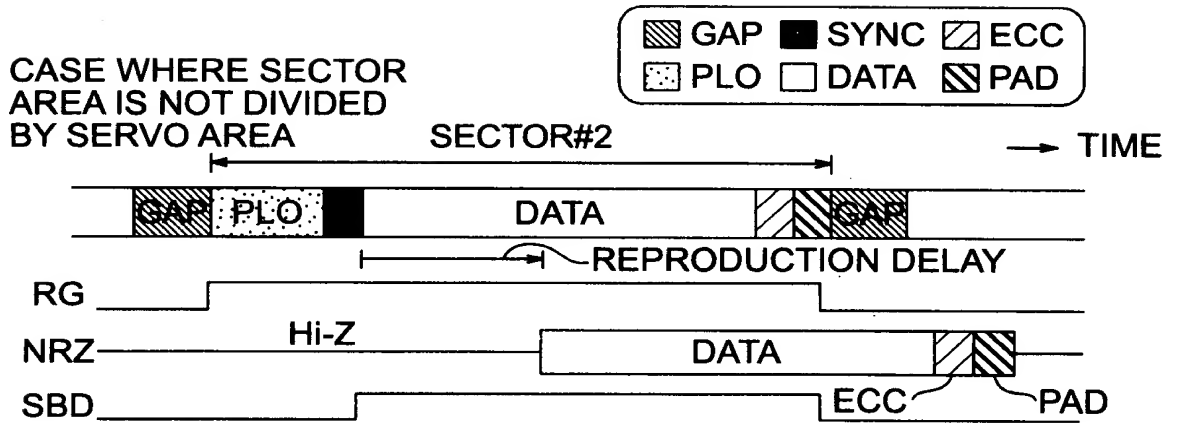
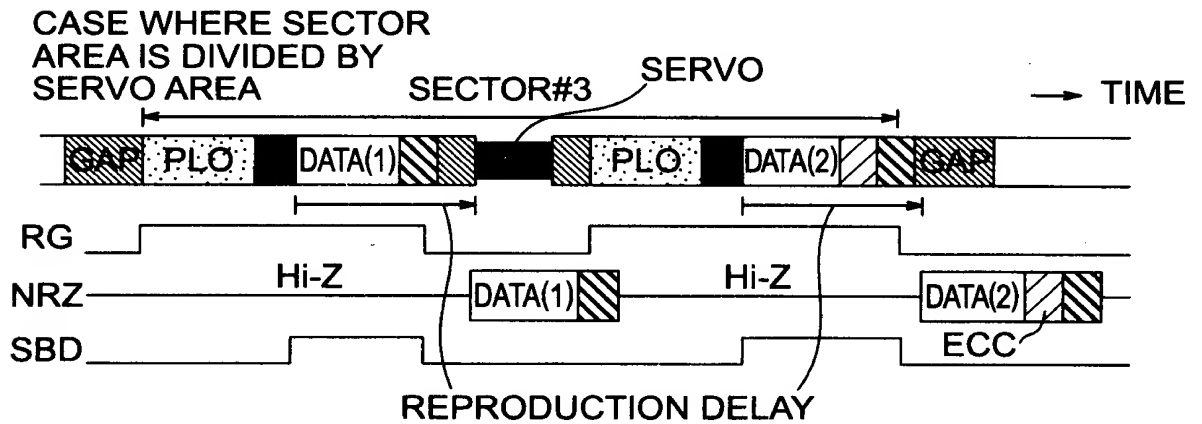


FIG. 4B



2025 RELEASE UNDER E.O. 14176

FIG. 5A

CASE WHERE SECTOR
AREA IS NOT DIVIDED
BY SERVO AREA

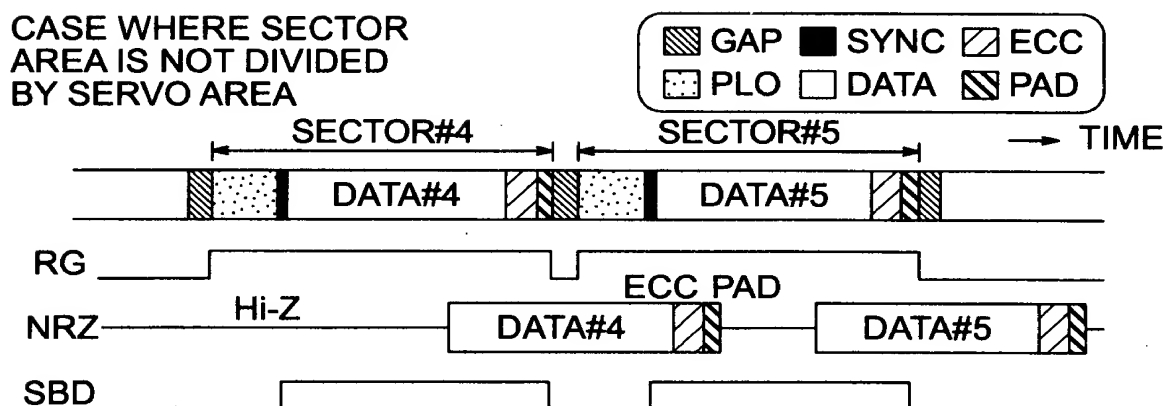


FIG. 5B

CASE WHERE SECTOR
AREA IS DIVIDED BY
SERVO AREA

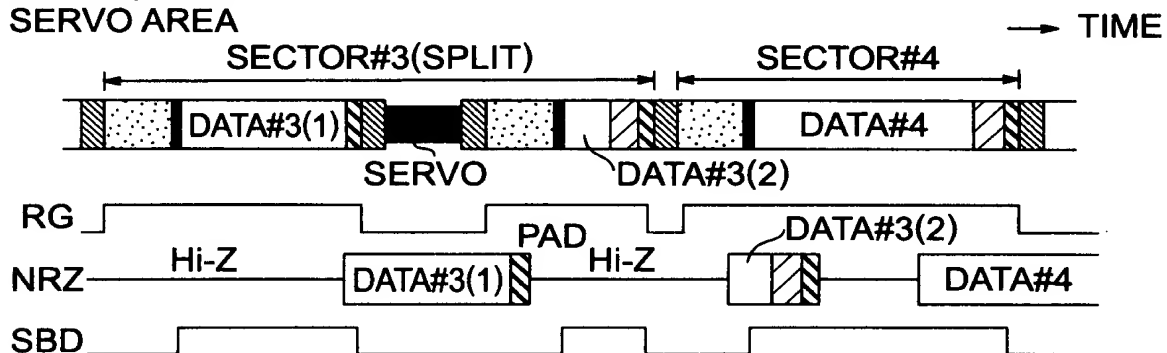


FIG. 6A

CASE WHERE SECTOR AREA IS NOT DIVIDED BY SERVO AREA

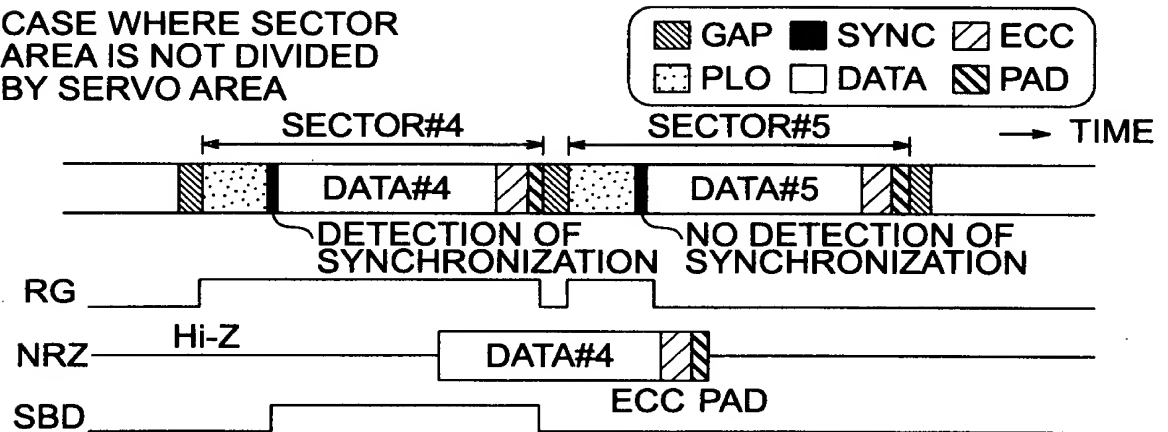


FIG. 6B

CASE WHERE SECTOR AREA IS DIVIDED BY SERVO AREA

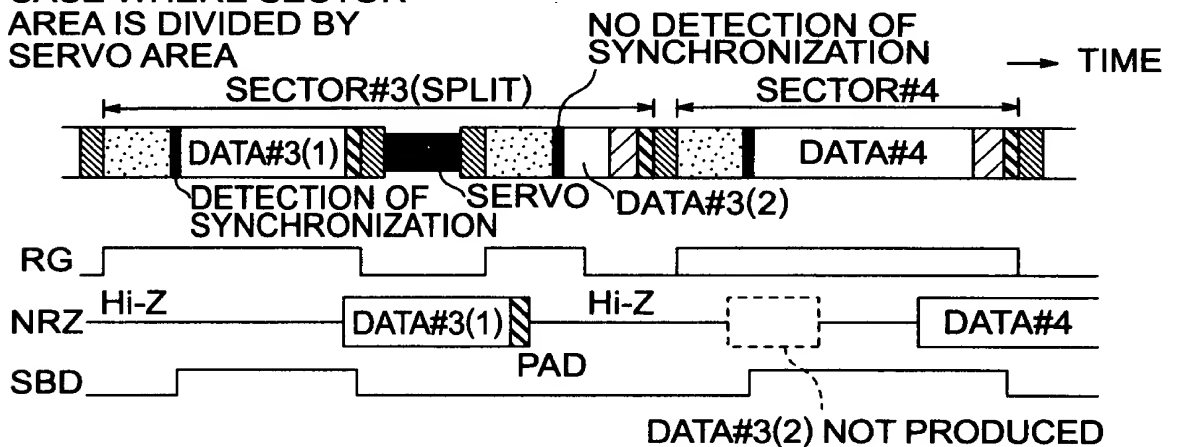


FIG. 7A

USUAL PROCESSING

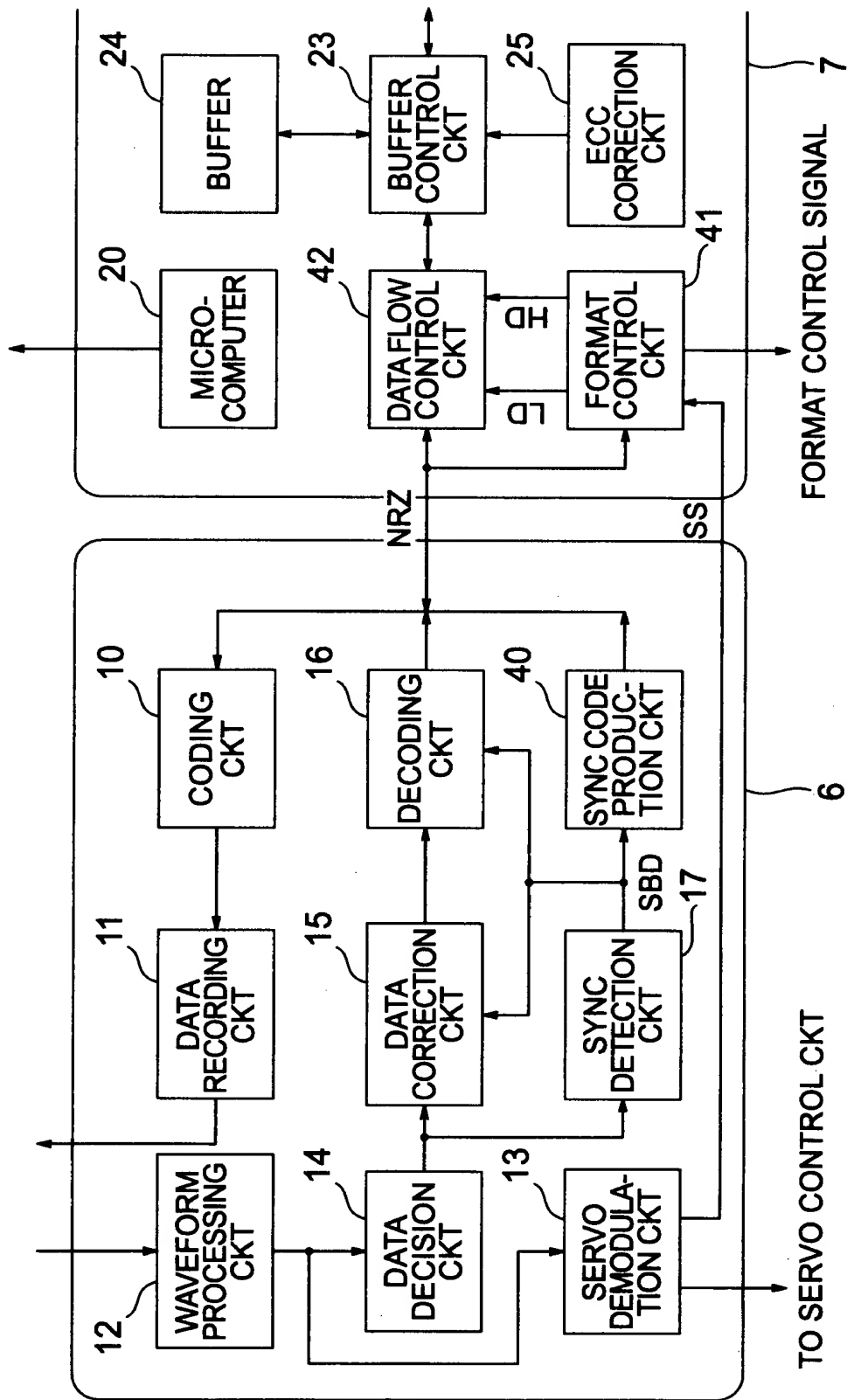
	PROCESSING BY SEQUENCER 33	PROCESSING BY DATA FLOW CONTROL CKT 22
step1	ACTIVATE "RG" SIGNAL	CONTINUE WHEN DATA IS BEING TRANSFERRED
step2	SYNC DETECTED WITHIN FIXED PERIOD? ("SBD" SIGNAL=ACTIVE)	CONTINUE WHEN DATA IS BEING TRANSFERRED
step3	WAIT DURING PRESCRI- BED NUMBER OF BYTES	WAIT DURING NUMBER OF RE- PRODUCTION DELAY BYTES AND THEN START TO TRANS- FER DATA OF PRESCRIBED NUMBER OF BYTES
step4	INACTIVATE "RG" SIGNAL	CONTINUE WHEN DATA IS BEING TRANSFERRED
step5	WAIT UNTIL SERVO PERIOD PASSES	CONTINUE WHEN DATA IS BEING TRANSFERRED
step6	ACTIVATE "RG" SIGNAL	CONTINUE WHEN DATA IS BEING TRANSFERRED
step7	SYNC DETECTED WITHIN FIXED PERIOD? ("SBD" SIGNAL=ACTIVE)	CONTINUE WHEN DATA IS BEING TRANSFERRED
step8	WAIT DURING PRESCRI- BED NUMBER OF BYTES	WAIT DURING NUMBER OF RE- PRODUCTION DELAY BYTES AND THEN START TO TRANS- FER DATA OF PRESCRIBED NUMBER OF BYTES
step9	INACTIVATE "RG" SIGNAL	CONTINUE WHEN DATA IS BEING TRANSFERRED

FIG. 7B

EXCEPTIONAL PROCESSING(WHEN SYNC BYTE IS NOT DETECTED WITHIN PRESCRIBED TIME)

step1	INACTIVATE "RG" SIGNAL	CONTINUE WHEN DATA IS BEING TRANSFERRED
step2	NOTIFY OCCURRENCE OF DATA ERROR	CONTINUE WHEN DATA IS BEING TRANSFERRED

FIG. 8



[illegible]

CASE WHERE SECTOR AREA IS NOT DIVIDED BY SERVO AREA

Legend:

- GAP (diagonal lines)
- SYNC (solid black)
- ECC (diagonal lines)
- PLO (dotted)
- DATA (white)
- PAD (diagonal lines)

Diagram illustrating the timing relationship between the disk sectors and the data output stream (NRZ) when the sector area is not divided by the servo area.

The disk sectors are labeled **SECTOR#4** and **SECTOR#5**. The data output stream (NRZ) shows the sequence of data blocks: **DATA#4** and **DATA#5**.

The timing sequence is as follows:

- The data output stream (NRZ) is in a **Hi-Z** state.
- The **SYNC** signal is asserted.
- The data output stream (NRZ) outputs **DATA#4**.
- The data output stream (NRZ) temporarily stops outputting data.
- The data output stream (NRZ) resumes outputting data, starting with **DATA#5**.

Arrows indicate the flow of data from the disk sectors to the data output stream (NRZ).

FIG. 9B

The diagram illustrates the timing of data output from a servo area. The top part shows a timeline with two sectors: SECTOR#3(SPLIT) and SECTOR#4. SECTOR#3(SPLIT) contains DATA#3(1) and DATA#3(2), separated by a black block labeled SERVO. SECTOR#4 contains DATA#4. The bottom part shows control signals: RG (Reset Gate) and NRZ (Non-Return-to-Zero). The NRZ signal includes a Hi-Z state, followed by SYNC, DATA#3(1), DATA#3(2), ECC, and DATA#4. Arrows indicate the data flow from the NRZ signal to the output, with labels 'TEMPORARILY STOP OUTPUTTING DATA' and 'RESUME OUTPUTTING DATA' pointing to the gaps between DATA#3(1) and DATA#3(2), and between DATA#3(2) and ECC, respectively.

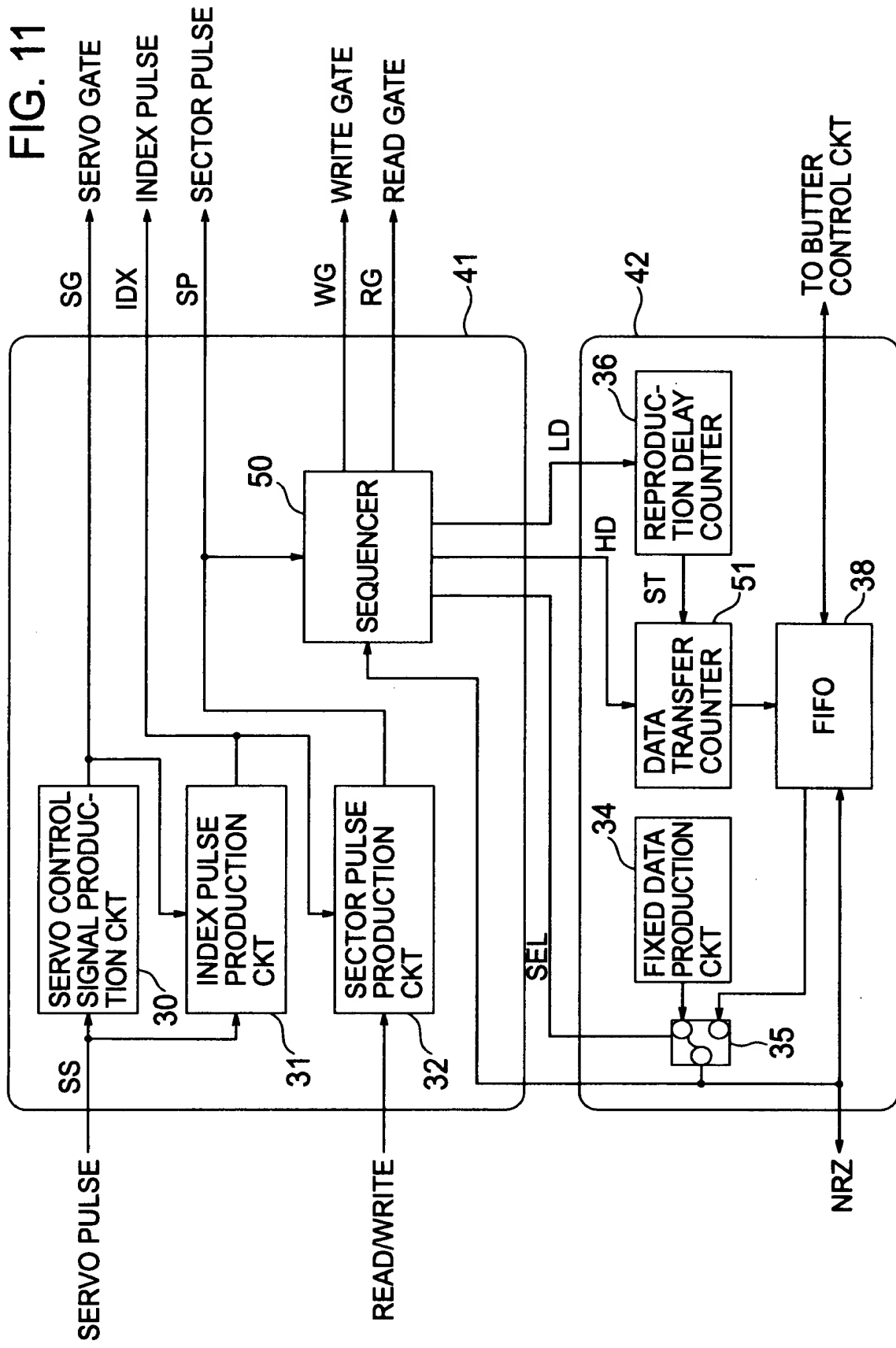


FIG. 12A

USUAL PROCESSING

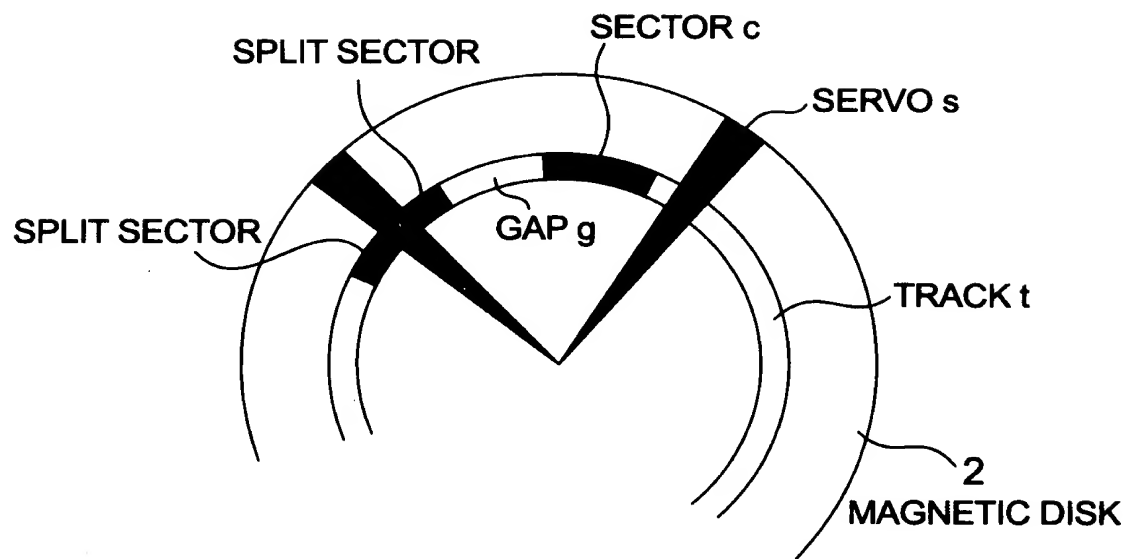
	PROCESSING BY SEQUENCER 50	PROCESSING BY DATA FLOW CONTROL CKT 42
step1	ACTIVATE "RG" SIGNAL	TEMPORARILY STOP DATA TRANSFER WHEN DATA IS BEING TRANSFERRED
step2	SYNC DETECTED WITHIN FIXED PERIOD? (NRZ DATA=SYNC CODE)	TEMPORARILY STOP DATA TRANSFER
step3	WAIT DURING PRESCRI- BED NUMBER OF BYTES	RESUME DATA TRANSFER WHEN DATA TRANSFER IS TEMPORARILY STOPPED
		WAIT DURING NUMBER OF RE- PRODUCTION DELAY BYTES AND THEN START TO TRANS- FER DATA OF PRESCRIBED NUMBER OF BYTES
step4	INACTIVATE "RG" SIGNAL	DATA TRANSFER CONTINUES
step5	WAIT UNTIL SERVO PERIOD PASSES	DATA TRANSFER CONTINUES
step6	ACTIVATE "RG" SIGNAL	TEMPORARILY STOP DATA TRANSFER WHEN DATA IS BEING TRANSFERRED
step7	SYNC DETECTED WITHIN FIXED PERIOD? (NRZ DATA=SYNC CODE)	TEMPORARILY STOP DATA TRANSFER
step8	WAIT DURING PRESCRI- BED NUMBER OF BYTES	RESUME DATA TRANSFER WHEN DATA TRANSFER IS TEMPORARILY STOPPED
		WAIT DURING NUMBER OF RE- PRODUCTION DELAY BYTES AND THEN START TO TRANS- FER DATA OF PRESCRIBED NUMBER OF BYTES
step9	INACTIVATE "RG" SIGNAL	DATA TRANSFER CONTINUES

FIG. 12B

EXCEPTIONAL PROCESSING(WHEN SYNC CODE IS NOT DETECTED WITHIN PRESCRIBED TIME)

step1	INACTIVATE "RG" SIGNAL	RESUME DATA TRANSFER WHEN DATA TRANSFER IS TEMPORARILY STOPPED
step2	NOTIFY OCCURRENCE OF DATA ERROR WHEN SYNC IS NOT DETECTED IN STEP 7	STOP DATA TRANSFER

FIG. 13



The diagram illustrates a sequence of servos over time. It is divided into two main sections: 'SECTOR' and 'SERVO'. The 'SECTOR' section contains servos #1, #2, and #3. The 'SERVO' section contains servos #4, #5, #6, #7, and #8. A final servo #1 is shown at the end. Shaded rectangular blocks represent the duration of each servo. An arrow labeled 'TIME' points to the right, indicating the sequence of events.

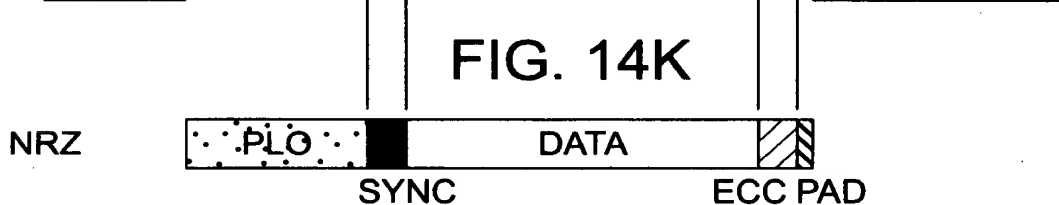
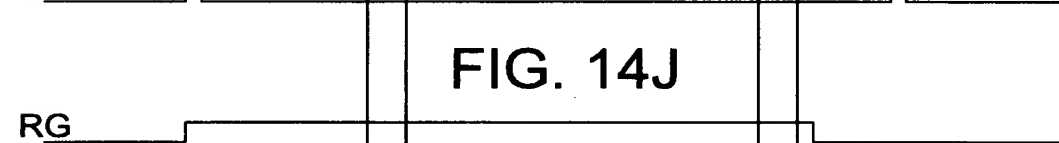
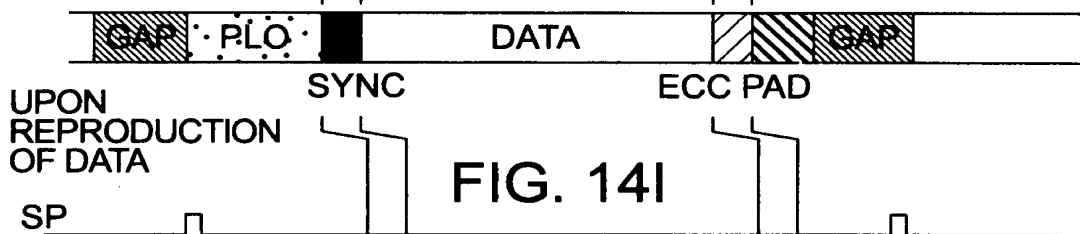
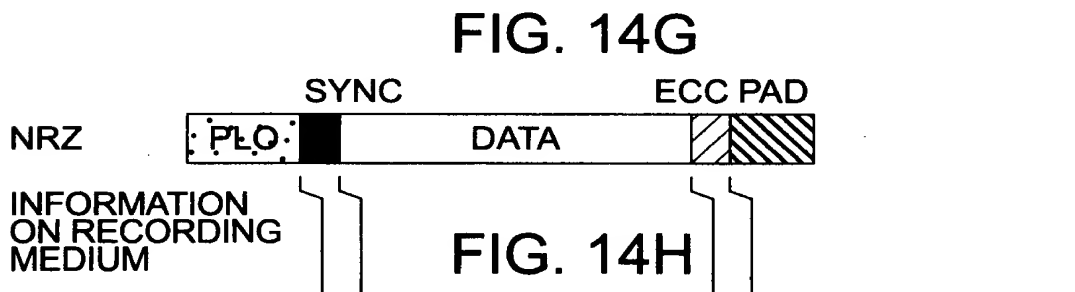
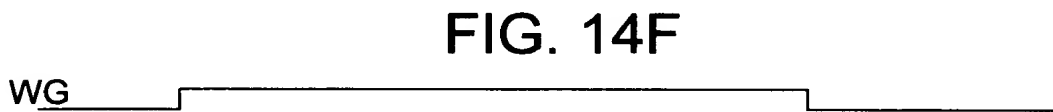
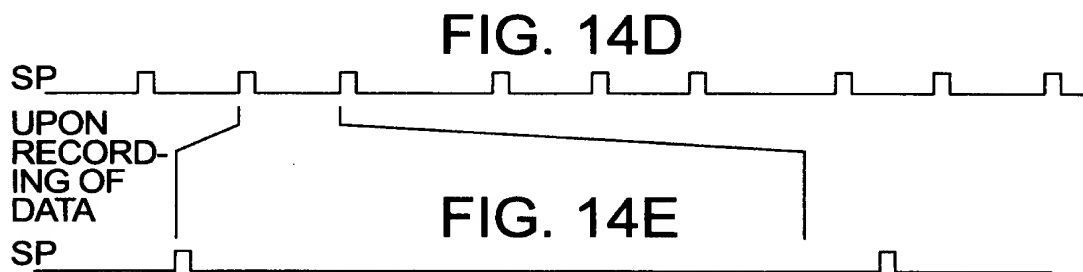
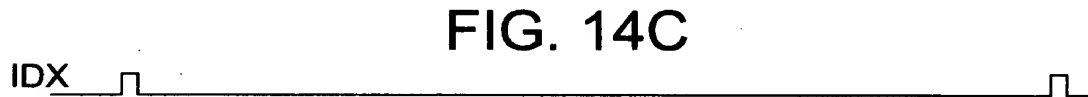
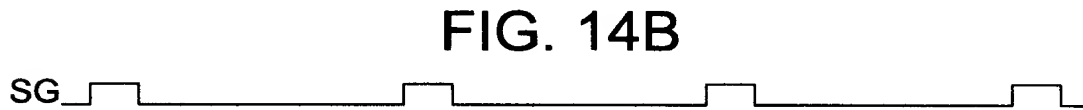
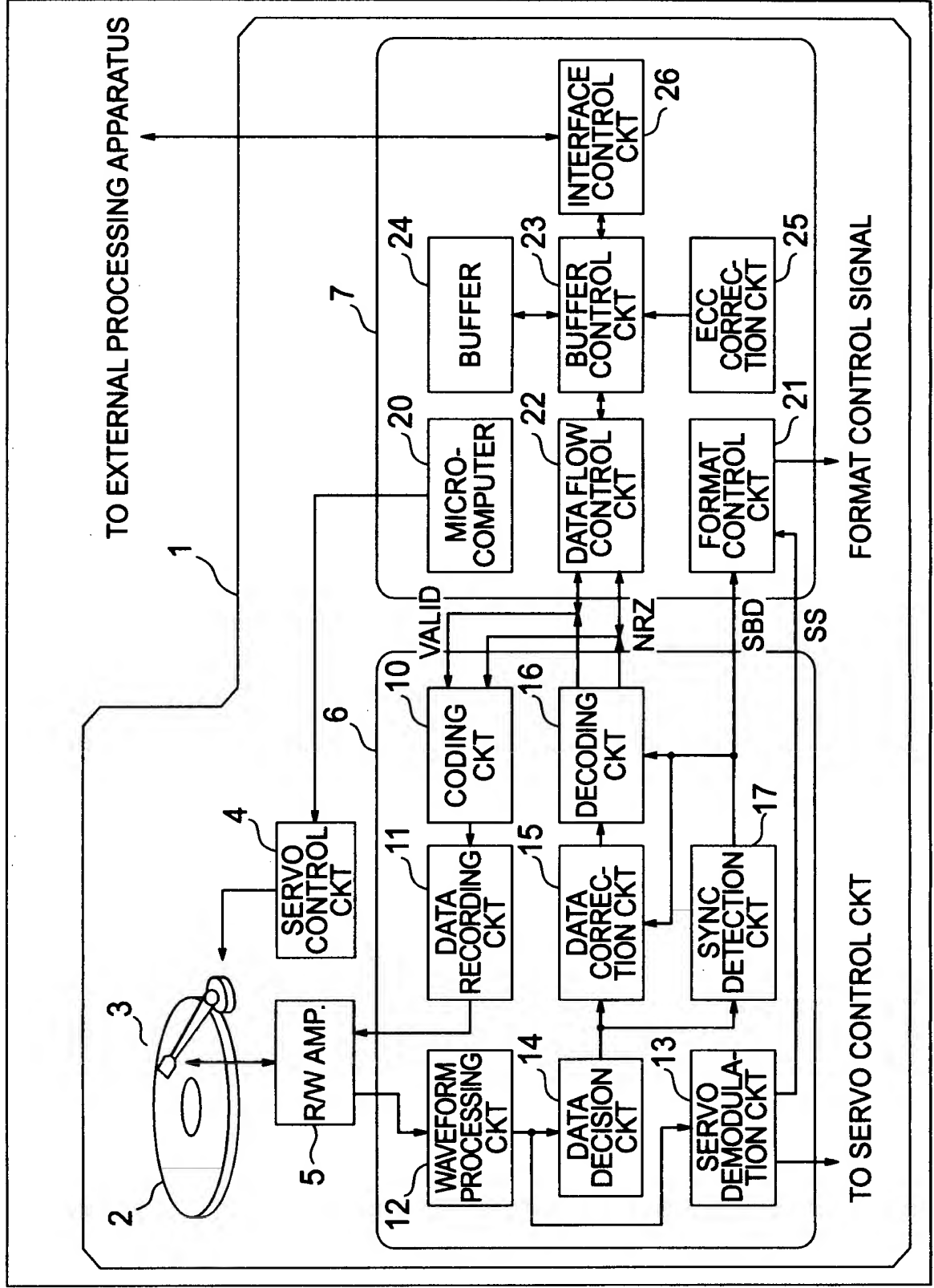
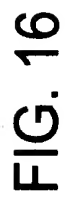


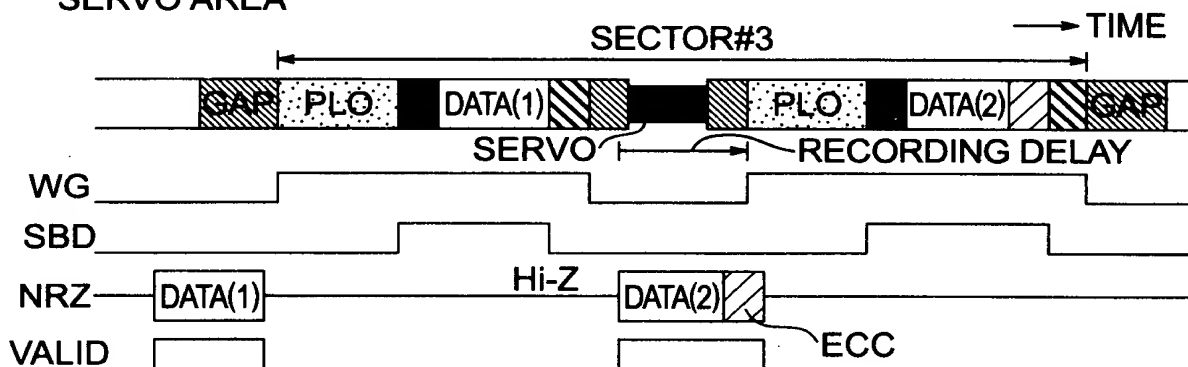
FIG. 15





[illegible]

CASE WHERE SECTOR AREA IS DIVIDED BY SERVO AREA



1. $\{x_1, x_2, \dots, x_n\}$ is a basis for V .
 2. $\{y_1, y_2, \dots, y_m\}$ is a basis for W .
 3. $\{z_1, z_2, \dots, z_k\}$ is a basis for U .
 4. $\{w_1, w_2, \dots, w_l\}$ is a basis for Z .
 5. $\{v_1, v_2, \dots, v_p\}$ is a basis for V .
 6. $\{u_1, u_2, \dots, u_q\}$ is a basis for U .
 7. $\{t_1, t_2, \dots, t_r\}$ is a basis for T .
 8. $\{s_1, s_2, \dots, s_s\}$ is a basis for S .
 9. $\{r_1, r_2, \dots, r_t\}$ is a basis for R .
 10. $\{q_1, q_2, \dots, q_u\}$ is a basis for Q .
 11. $\{p_1, p_2, \dots, p_v\}$ is a basis for P .
 12. $\{o_1, o_2, \dots, o_w\}$ is a basis for O .
 13. $\{n_1, n_2, \dots, n_x\}$ is a basis for N .
 14. $\{m_1, m_2, \dots, m_y\}$ is a basis for M .
 15. $\{l_1, l_2, \dots, l_z\}$ is a basis for L .
 16. $\{k_1, k_2, \dots, k_a\}$ is a basis for K .
 17. $\{j_1, j_2, \dots, j_b\}$ is a basis for J .
 18. $\{i_1, i_2, \dots, i_c\}$ is a basis for I .
 19. $\{h_1, h_2, \dots, h_d\}$ is a basis for H .
 20. $\{g_1, g_2, \dots, g_e\}$ is a basis for G .
 21. $\{f_1, f_2, \dots, f_f\}$ is a basis for F .
 22. $\{e_1, e_2, \dots, e_g\}$ is a basis for E .
 23. $\{d_1, d_2, \dots, d_h\}$ is a basis for D .
 24. $\{c_1, c_2, \dots, c_i\}$ is a basis for C .
 25. $\{b_1, b_2, \dots, b_j\}$ is a basis for B .
 26. $\{a_1, a_2, \dots, a_k\}$ is a basis for A .
 27. $\{z_1, z_2, \dots, z_l\}$ is a basis for Z .
 28. $\{y_1, y_2, \dots, y_m\}$ is a basis for Y .
 29. $\{x_1, x_2, \dots, x_n\}$ is a basis for X .
 30. $\{w_1, w_2, \dots, w_o\}$ is a basis for W .
 31. $\{v_1, v_2, \dots, v_p\}$ is a basis for V .
 32. $\{u_1, u_2, \dots, u_q\}$ is a basis for U .
 33. $\{t_1, t_2, \dots, t_r\}$ is a basis for T .
 34. $\{s_1, s_2, \dots, s_s\}$ is a basis for S .
 35. $\{r_1, r_2, \dots, r_t\}$ is a basis for R .
 36. $\{q_1, q_2, \dots, q_u\}$ is a basis for Q .
 37. $\{p_1, p_2, \dots, p_v\}$ is a basis for P .
 38. $\{o_1, o_2, \dots, o_w\}$ is a basis for O .
 39. $\{n_1, n_2, \dots, n_x\}$ is a basis for N .
 40. $\{m_1, m_2, \dots, m_y\}$ is a basis for M .
 41. $\{l_1, l_2, \dots, l_z\}$ is a basis for L .
 42. $\{k_1, k_2, \dots, k_a\}$ is a basis for K .
 43. $\{j_1, j_2, \dots, j_b\}$ is a basis for J .
 44. $\{i_1, i_2, \dots, i_c\}$ is a basis for I .
 45. $\{h_1, h_2, \dots, h_d\}$ is a basis for H .
 46. $\{g_1, g_2, \dots, g_e\}$ is a basis for G .
 47. $\{f_1, f_2, \dots, f_f\}$ is a basis for F .
 48. $\{e_1, e_2, \dots, e_g\}$ is a basis for E .
 49. $\{d_1, d_2, \dots, d_h\}$ is a basis for D .
 50. $\{c_1, c_2, \dots, c_i\}$ is a basis for C .
 51. $\{b_1, b_2, \dots, b_j\}$ is a basis for B .
 52. $\{a_1, a_2, \dots, a_k\}$ is a basis for A .
 53. $\{z_1, z_2, \dots, z_l\}$ is a basis for Z .
 54. $\{y_1, y_2, \dots, y_m\}$ is a basis for Y .
 55. $\{x_1, x_2, \dots, x_n\}$ is a basis for X .
 56. $\{w_1, w_2, \dots, w_o\}$ is a basis for W .
 57. $\{v_1, v_2, \dots, v_p\}$ is a basis for V .
 58. $\{u_1, u_2, \dots, u_q\}$ is a basis for U .
 59. $\{t_1, t_2, \dots, t_r\}$ is a basis for T .
 60. $\{s_1, s_2, \dots, s_s\}$ is a basis for S .
 61. $\{r_1, r_2, \dots, r_t\}$ is a basis for R .
 62. $\{q_1, q_2, \dots, q_u\}$ is a basis for Q .
 63. $\{p_1, p_2, \dots, p_v\}$ is a basis for P .
 64. $\{o_1, o_2, \dots, o_w\}$ is a basis for O .
 65. $\{n_1, n_2, \dots, n_x\}$ is a basis for N .
 66. $\{m_1, m_2, \dots, m_y\}$ is a basis for M .
 67. $\{l_1, l_2, \dots, l_z\}$ is a basis for L .
 68. $\{k_1, k_2, \dots, k_a\}$ is a basis for K .
 69. $\{j_1, j_2, \dots, j_b\}$ is a basis for J .
 70. $\{i_1, i_2, \dots, i_c\}$ is a basis for I .
 71. $\{h_1, h_2, \dots, h_d\}$ is a basis for H .
 72. $\{g_1, g_2, \dots, g_e\}$ is a basis for G .
 73. $\{f_1, f_2, \dots, f_f\}$ is a basis for F .
 74. $\{e_1, e_2, \dots, e_g\}$ is a basis for E .
 75. $\{d_1, d_2, \dots, d_h\}$ is a basis for D .
 76. $\{c_1, c_2, \dots, c_i\}$ is a basis for C .
 77. $\{b_1, b_2, \dots, b_j\}$ is a basis for B .
 78. $\{a_1, a_2, \dots, a_k\}$ is a basis for A .
 79. $\{z_1, z_2, \dots, z_l\}$ is a basis for Z .
 80. $\{y_1, y_2, \dots, y_m\}$ is a basis for Y .
 81. $\{x_1, x_2, \dots, x_n\}$ is a basis for X .
 82. $\{w_1, w_2, \dots, w_o\}$ is a basis for W .
 83. $\{v_1, v_2, \dots, v_p\}$ is a basis for V .
 84. $\{u_1, u_2, \dots, u_q\}$ is a basis for U .
 85. $\{t_1, t_2, \dots, t_r\}$ is a basis for T .
 86. $\{s_1, s_2, \dots, s_s\}$ is a basis for S .
 87. $\{r_1, r_2, \dots, r_t\}$ is a basis for R .
 88. $\{q_1, q_2, \dots, q_u\}$ is a basis for Q .
 89. $\{p_1, p_2, \dots, p_v\}$ is a basis for P .
 90. $\{o_1, o_2, \dots, o_w\}$ is a basis for O .
 91. $\{n_1, n_2, \dots, n_x\}$ is a basis for N .
 92. $\{m_1, m_2, \dots, m_y\}$ is a basis for M .
 93. $\{l_1, l_2, \dots, l_z\}$ is a basis for L .
 94. $\{k_1, k_2, \dots, k_a\}$ is a basis for K .
 95. $\{j_1, j_2, \dots, j_b\}$ is a basis for J .
 96. $\{i_1, i_2, \dots, i_c\}$ is a basis for I .
 97. $\{h_1, h_2, \dots, h_d\}$ is a basis for H .
 98. $\{g_1, g_2, \dots, g_e\}$ is a basis for G .
 99. $\{f_1, f_2, \dots, f_f\}$ is a basis for F .
 100. $\{e_1, e_2, \dots, e_g\}$ is a basis for E .
 101. $\{d_1, d_2, \dots, d_h\}$ is a basis for D .
 102. $\{c_1, c_2, \dots, c_i\}$ is a basis for C .
 1

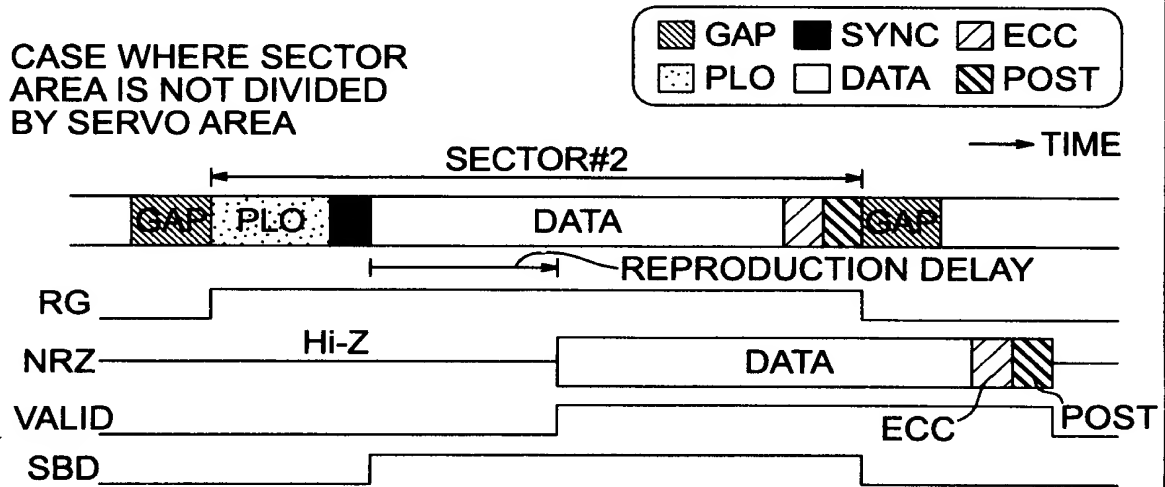


FIG. 18B

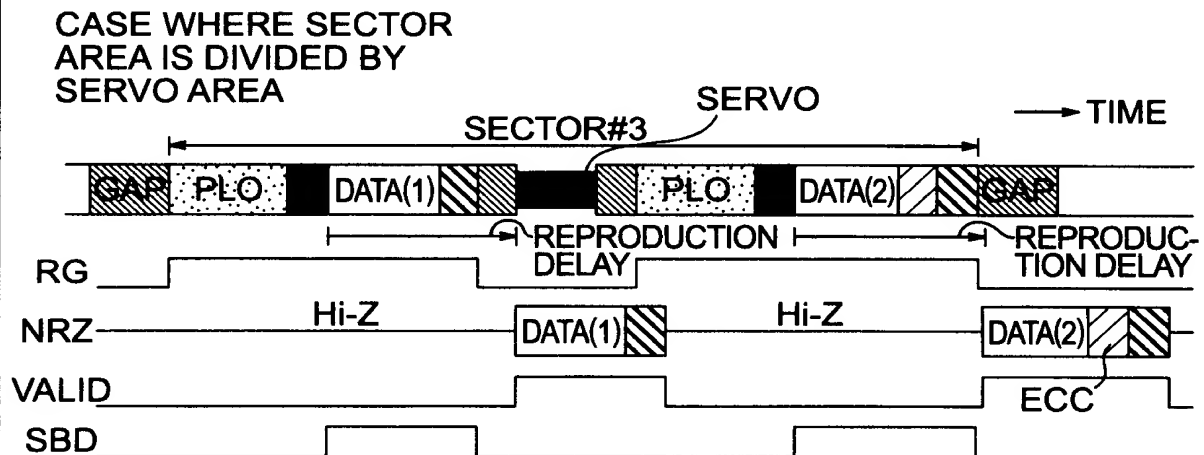
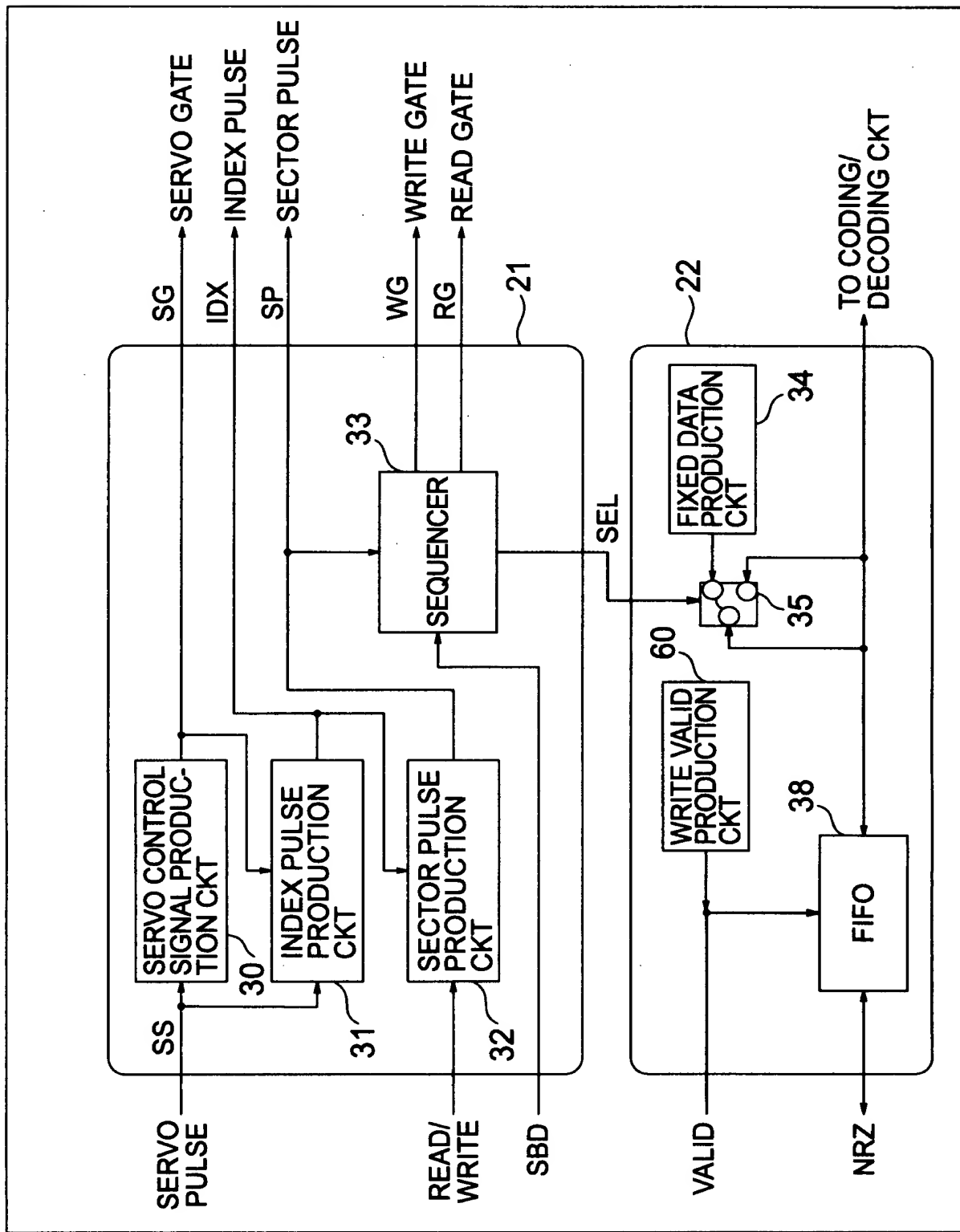


FIG. 20



005160 20932560

FIG. 21A

CASE WHERE SECTOR
AREA IS NOT DIVIDED
BY SERVO AREA

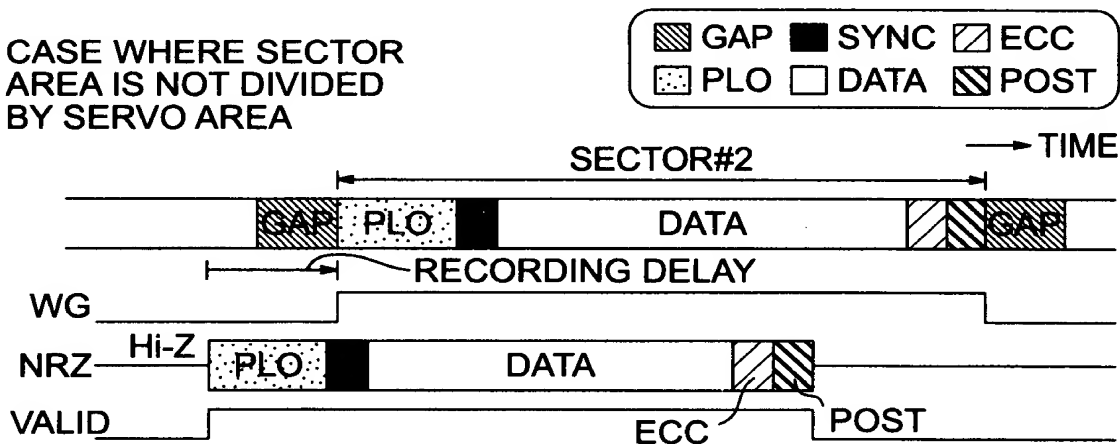


FIG. 21B

CASE WHERE SECTOR
AREA IS DIVIDED BY
SERVO AREA

